

Supporting Information

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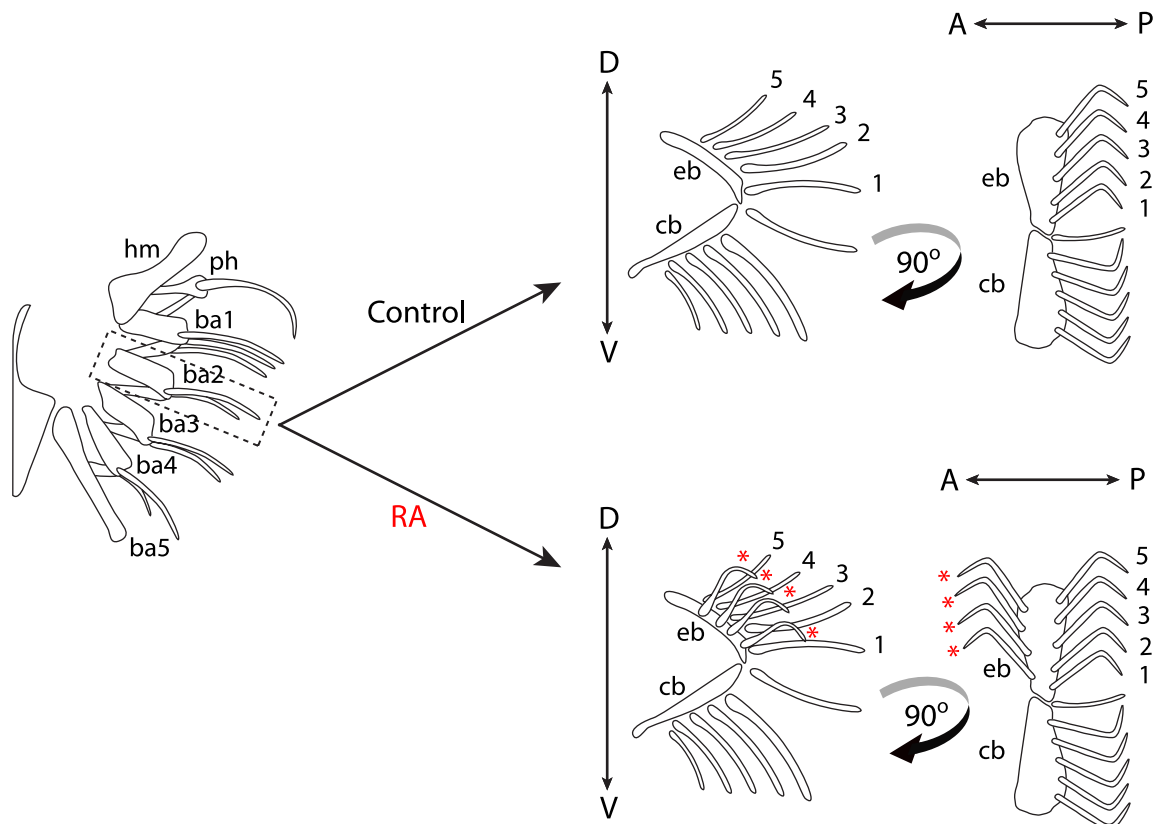


Fig. S1. Schematic overview of the effects of RA on the skate gill arch endoskeleton. A bisected skate branchial skeleton in ventral view (*Left*) shows the hyomandibula, pseudohyal, and 5 posterior branchial arches. In frontal view (*Center*), an isolated control branchial arch 2 has a normal complement of 5 gill rays articulating with the epibranchial cartilage, whereas a RA-treated branchial arch 2 has the normal complement of 5 gill rays, plus a supernumerary complement of 4 ectopic gill rays (red asterisk). In lateral view (*Right*), the 5 gill rays of the control arch can be seen articulating along the posterior margin of the epibranchial and curving caudally. In the RA-treated arch, the supernumerary complement of gill rays (red asterisks) articulate along the anterior margin of the epibranchial, and curve rostrally, thus mirroring the normal complement. ba1–ba5, branchial arches 1–5; cb, ceratobranchial; eb, epibranchial; 1–5, gill rays 1–5; hm, hyomandibula; ph, pseudohyal.